

# VZ Pause

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10 TM=PEEK(30896)*256+PEEK(30897)-35
20 POKE30897, TM-INT(TM/256)*256:POKE30898, INT(TM/256)
30 TM=TM+1 : 'NEXT ADDR.
40 POKE30846, TM-INT(TM/256)*256:POKE30847, INT(TM/256)
50 TM=TM-65536 : 'CONVERT TO SIGNED DEC.
60 FORA=0T031
70 READB:POKETM+A,B
80 NEXT
90 POKE30845,205 : 'CALL for INTERRUPT EXIT.
100 NEW
110 DATA33,150,0,1,70,0,58,251,104,254,121,192,205,92,52,58,251
120 DATA104,254,115,32,249,33,200,0,1,60,0,205,92,52,201

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**ACTION:** When a key is depressed, the keyboard scanning routine sets an INTERRUPT. The interrupt routine is vectored out of ROM to a interrupt exit.

787D/E/F Hex. (30845/6/7 Dec.) is the 3 byte interrupt exit set by this routine. It is called by the interrupt.

Lines 40 and 90 set this to CALL (TM+1). [CD LSB MSB]

78B1/2 Hex (30897/8 Dec.) contain the <LSB+MSB> of top of memory pointer.

68FB Hex. is the row address of the keyboard matrix. where -

bit 5 4 3 2 1 0

corresponds to. V Z C shift X B and the column lines go low when a key is depressed.

VZ Pause is a short routine for the VZ-200 which enables the computer to be 'paused' at any time. A pause can be initiated by pressing Shift-X. A short beeb will be produced to confirm that a pause has begun and pause can be terminated by pressing Shift-C, and again a short beeb will confirm this. The routine uses interrupts, and so will work with any software that does not disturb these interrupts. To use, type in the routine, and then CSAVE it immediately, as the program self-destructs when run. When the program is run, the pause facility becomes operational.

The program works in the following fashion:

- Lines 10-20 lower the RAMTOP to create space for a short machine language program

- Lines 30-40 set the address for the interrupt exit

- Lines 50-80 POKE the machine language program into the memory

- Line 90 makes the interrupt operational

- Line 100 clears the Basic routine from memory. This is necessary to prevent the system crashing should the routine be RUN twice.

21 96 00	LD HL, 0096H	; load HL with 150D - pitch for sound.	
01 46 00	LD BC, 0046H	; load BC with 70D - duration for sound.	
3A FB 68	LD A, (68FBH)	; check row address of keyboard matrix	
FE 79	CP 79H	; compare with <shift X> or 120D. - set flags.	
C0	RET NZ	; return if not <shift X> depressed. → exit NOT <shift X>	
CD 53 34	CALL 345CH	; call sound routine.	
3A FB 68	LD A, (68FBH)	; check row address of keyboard matrix.	← pause loop.
FE 73	CP 73H	; compare with <shift C> or 115D - set flags	
20 F9	JR NZ, LOOP	; if not <shift C> then jump back 7 bytes to loop.	
21 C8 00	LD HL, 00C8H	; load HL with 200D - higher pitch for exit sound.	
01 3C 00	LD BC, 003CH	; load BC with 60D - shorter duration for exit sound	
CD 5C 34	CALL 345CH	; call sound routine.	
C9	RET	; return to interrupt exit and ROM routines.	